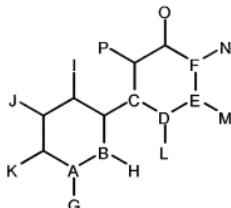


AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (CURRENTLY AMENDED) A compound having of Formula I:



(I)

or a pharmaceutically acceptable salt, ester, or amide thereof,

wherein A, B, C, D, E and F A and B constitute part of a pyridine ring and C, D, E and F constitute part of an imidazole ring 3-, 4-, 5- or 6-membered ring system of unsaturated, partially unsaturated or saturated heterocyclic and carbocyclic rings, wherein the A, B, C, D, E and F A-B and C-F ring system is systems is each independently and optionally substituted with hydrido, acyl, halo, lower acyl, lower haloalkyl, oxo, cyano, nitro, carboxyl, amino, lower alkoxy, aminocarbonyl, lower alkoxycarbonyl, alkylamino, arylamino, lower carboxyalkyl, lower cyanoalkyl, lower hydroxyalkyl, alkylthio, alkylsulfinyl, aryl, lower aralkylthio, lower alkylsulfinyl, lower alkylsulfonyl, aminosulfonyl, lower N-arylaminosulfonyl, lower arylsulfonyl, and lower N-alkyl-N-arylaminosulfonyl; wherein aryl of the A, B, C, D, E and F ring system is selected from phenyl, biphenyl, and naphthyl, 5-membered heteroaryl, and 6-membered heteroaryl, and is optionally substituted with one or two substituents selected from the group consisting of halo, hydroxyl, amino, nitro, cyano, carbamoyl, lower alkyl, lower alkenyloxy, lower alkoxy, lower alkylthio, lower alkylsulfinyl, lower alkylsulfonyl, lower alkylamino, lower dialkylamino, lower haloalkyl, lower alkoxycarbonyl, lower N-alkylcarbamoyl, lower N,N-dialkylcarbamoyl, lower alkanoylamino, lower cyanoalkoxy, lower carbamoylalkoxy, and lower carbonylalkoxy; and wherein the acyl group is optionally substituted with a substituent selected from hydrido, alkyl, halo, and alkoxy;

wherein G, H, I, J, K, L M, N, O and P are independently selected from the group consisting of hydrogen, aminoalkyl, aralkyl, aryl, heteroaryl, heteroaralkyl, heteroaralkyloxy, aroyl, aroylalkyl, aryloxy, aryloxyalkyl, hydrido, alkyl, alkenyl, alkynyl, alkoxy, alkoxyalkyl, acyl, acylalkyl, acyloxy, acyloxyalkyl, halo, haloalkyl, cyano, cyanoalkyl, nitro, nitroalkyl, carboxyl, carboxylalkyl, amino, aminoalkyl, aminocarbonyl, aminocarbonylalkyl, carbamoylalkyl, carbamoylalkoxy, iminoalkyl, imidoalkyl, alkoxy carbonyl, alkoxy carbonylalkyl, alkylamino, alkylaminoalkyl, dialkylamino, dialkylaminoalkyl, arylamino, arylaminoalkyl, hydroxy, hydroxyalkyl, isocyano, isocyanoalkyl, isothiocyanato, isothiocyanatoalkyl, oximinoalkoxy, morpholino, morpholinoalkyl, azido, azidoalkyl, formyl, formylalkyl, alkylthio, alkylthioalkyl, alkylsulfinyl, alkylsulfinylalkyl, alkylsulfonyl, alkylsulfonylalkyl, aminosulfonyl, arylsulfonyl, N-alkyl-N-arylamino sulfonyl; wherein the aryl of G, H, I, J, K, L M, N, O and/or P is optionally substituted and is selected from the group consisting of phenyl, biphenyl, naphthyl, 5-membered heteroaryl, and 6-membered heteroaryl.

2. (CURRENTLY AMENDED & WITHDRAWN) The compound of claim 1, wherein the heterocycles which make up the central ring systems of formula I comprising the A, B, C, D, E and F atoms are selected from the group consisting of pyrrolidine, piperidine, piperazine, heptamethyleneimine, hexamethyleneimine, homopiperazine, perhydroindole, azetidine, 4-piperidinopiperidine, 1-azacycloheptane, imidazoyl, perhydroisoquinoline, decahydroquinoline, 1-phenylpiperazine, 4-phenylpiperidine, 1-(fluorophenyl)piperazine, 1,3,5-hexahydrotriazine, morpholine, phenylmorpholine, thiomorpholine, tetrahydrothiophene, thiazolidine,  $\omega$ -thiopropanoate, 1,4-thioxane, 1,3-dithiane, 1,4,7-trithiacyclononane, 1,3,5-trithiane, tetrahydrofuran, tetramethyleneoxide, tetrahydropyran, 1,3,5-trioxane, and oxepane;

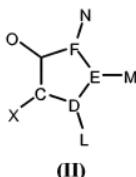
wherein the A-B and C-F heterocycles each independently and optionally have one or two ring hydrogens substituted with substituents selected from the group consisting of Cl, Br, I, -OR<sub>4</sub>, -R<sub>5</sub>, -OC(O)R<sub>6</sub>, OC(O)NR<sub>7</sub>R<sub>8</sub>, -C(O)R<sub>9</sub>, -CN, -NR<sub>10</sub>R<sub>11</sub>, -SR<sub>12</sub>, -S(O)R<sub>11</sub>, -S(O)<sub>2</sub>R<sub>14</sub>, -C(O)OR<sub>15</sub>, -S(O)<sub>2</sub>NR<sub>16</sub>R<sub>17</sub>; and -R<sub>18</sub>NR<sub>19</sub>R<sub>20</sub>, wherein R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub>, R<sub>14</sub>, R<sub>15</sub>, R<sub>16</sub>, R<sub>17</sub>, R<sub>18</sub>, R<sub>19</sub>, and R<sub>20</sub> are the same or different and are branched or unbranched alkyl groups from one to eight carbon atoms or hydrogen radicals.

3. CANCELLED

4. (CURRENTLY AMENDED & WITHDRAWN) The compound of claim 1, wherein two adjacent groups selected from G, H, I, J, K, L M, N, O and P are joined together to form a part of a fused carbocyclic or heterocyclic ring system.

5. (WITHDRAWN) The compound of claim 4, wherein L and M are part of a second ring that is fused to the C, D, E, F ring.

6. (CURRENTLY AMENDED) The compound of claim 1 having Formula II:



wherein C, D, E and F constitute a 5 membered ring containing carbon, oxygen, sulfur, nitrogen, or phosphorus;

X is the A, B A-B ring system defined as in claim 1; and

L, M, N, and O are defined as in claim 1; and

a) C and E are nitrogen and D and F are carbon, and the bond between C and D and the bond between F and the carbon connected to O are double bonds; or

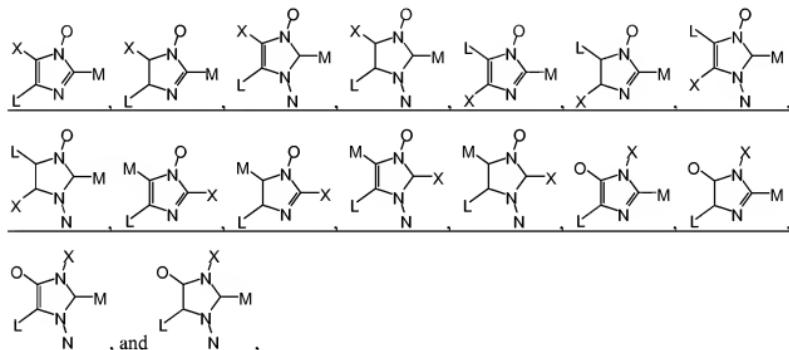
b) C and E are nitrogen and D and F are carbon, and the bond between D and E and the bond between F and the carbon connected to O are double bonds; or

c) D and F are nitrogen and C and E are carbon, and the bond between E and F and the bond between C and the carbon connected to O are double bonds; or

d) D and F are nitrogen and C and E are carbon, and the bond between D and E and the bond between C and the carbon connected to O are double bonds.

7. (CURRENTLY AMENDED) The compound of claim 6 1, wherein C is a carbon; D is an oxygen, sulfur, or nitrogen; E is a carbon; and L, M, N, O and X are

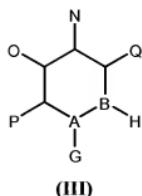
independently selected from aminoalkyl, alkylaminoalkyl, arylaminoalkyl, dialkylaminoalkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, alkyl, haloalkyl, cyanoalkyl, iminoalkyl, imidoalkyl, isothiocyanooalkyl, morpholinoalkyl, azidoalkyl, and formylalkyl the C-F ring is selected from the group consisting of



wherein X is the A-B ring system defined as in claim 1; and L, M, N, and O are defined as in claim 1.

8. CANCELLED

9. (CURRENTLY AMENDED) The compound of claim 1 having Formula III:



wherein A, B, G, H, N, O and P are defined as in claim 1 and wherein Q is the C-F ring system.

10. (CURRENTLY AMENDED & WITHDRAWN) The compound of claim 9, wherein A is a nitrogen, B is a carbon, and Q is a 5 or 6 member unsaturated, partially unsaturated or saturated heterocyclic and carbocyclic ring,

wherein the ring system of Formula III is optionally substituted with a group selected from the group consisting of hydrido, acyl, halo, lower acyl, lower haloalkyl, oxo, cyano, nitro, carboxyl, amino, lower alkoxy, aminocarbonyl, lower alkoxy carbonyl, alkylamino, arylamino, lower carboxyalkyl, lower cyanoalkyl, lower hydroxyalkyl, alkylthio, alkylsulfinyl, aryl, lower aralkylthio, lower alkylsulfinyl, lower alkylsulfonyl, aminosulfonyl, lower N-arylamino sulfonyl, lower arylsulfonyl, and lower N-alkyl-N-arylamino sulfonyl;

wherein the aryl is selected from the group consisting of phenyl, biphenyl, and naphthyl, 5-membered heteroaryl, and 6-membered heteroaryl, and wherein the aryl is optionally substituted with one or two substituents selected from the group consisting of halo, hydroxyl, amino, nitro, cyano, carbamoyl, lower alkyl, lower alkenyloxy, lower alkoxy, lower alkylthio, lower alkylsulfinyl, lower alkylsulfonyl, lower alkylamino, lower dialkylamino, lower haloalkyl, lower alkoxy carbonyl, lower N-alkyl carbamoyl, lower N,N-dialkyl carbamoyl, lower alkanoylamino, lower cyanoalkoxy, lower carbamoylalkoxy, lower carbonylalkoxy; and

wherein the acyl group is optionally substituted with a substituent selected from the group consisting of hydrido, alkyl, halo, and alkoxy.

11. (CURRENTLY AMENDED) The compound of claim 9, wherein A is nitrogen and B is carbon; or wherein A is carbon and B is nitrogen the Q ring is a substituted or unsubstituted radical selected from the group consisting of pyrrolyl, N-methylpyrrolyl, pyranyl, furyl, tetrahydrofuryl, tetrahydrothienyl, thienyl, oxazolyl, pyrrolyl, thiazolyl, imidazolyl, isothiazolyl, isoxazolyl, pyrazolyl, cyclopropyl, cyclobutyl, cyclopentyl, phenyl, and pyridyl; and optionally has one or two ring hydrogens substituted with substituents selected from the group consisting of Cl, Br, I, OR<sub>4</sub>, R<sub>5</sub>, OC(O)R<sub>6</sub>, OC(O)NR<sub>7</sub>R<sub>8</sub>, C(O)R<sub>9</sub>, CN, NR<sub>10</sub>R<sub>11</sub>, SR<sub>12</sub>, S(O)R<sub>13</sub>, S(O)<sub>2</sub>R<sub>14</sub>, C(O)OR<sub>15</sub>, S(O)<sub>2</sub>NR<sub>16</sub>R<sub>17</sub>; and R<sub>18</sub>NR<sub>19</sub>R<sub>20</sub>, wherein R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub>, R<sub>14</sub>, R<sub>15</sub>, R<sub>16</sub>, R<sub>17</sub>, R<sub>18</sub>, R<sub>19</sub>, and R<sub>20</sub> are the same or different and are branched or unbranched alkyl groups from one to eight carbon atoms or hydrogen radicals.

12. (ORIGINAL) The compound of claim 10 which is 3-(4-methyl-thiophen-3-yl) pyridine, 3-(1H-imidazol-4-yl)-pyridine, 3-pyrazol-1-yl pyridine, 3-thiophen-2-yl pyridine, [3,3']bipyridinyl, or 3-thiazol-2-yl pyridine.

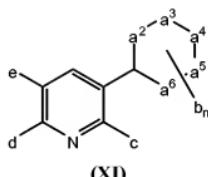
13-40. CANCELLED

41. (ORIGINAL) A pharmaceutical composition comprising:  
(a) the compound of claim 1, or a pharmaceutically acceptable salt, ester, or amide thereof,  
(b) a pharmaceutically acceptable carrier.

42-58. CANCELLED

59. (CURRENTLY AMENDED) A compound selected from the group consisting of

(A) a compound having of Formula XI:



or a pharmaceutically acceptable salt, ester, or amide thereof,

wherein the ring defined by  $a^1$ ,  $a^2$ ,  $a^3$ ,  $a^4$ ,  $a^5$  and  $a^6$  is imidazole are each independently selected from the group consisting of carbon, nitrogen, oxygen and sulfur, or is absent;

$b_n$  is a substituent selected from the group consisting of hydrogen, methyl, lower alkyl, aminomethyl, N-methylaminomethyl, benzyl, oximino, amino, nitro, ethyl, formyl, bromomethyl, heteroarylaminomethyl, heteroaryl, 3-(3-methylthienyl)pyridyl, 2-(3-methyl)thienyl, 3-thienyl,  $\text{CH}_3\text{O}(\text{C}=\text{O})-$ , N,N-dimethylaminomethyl, aminopropyl, hydroxymethyl, pyridyl and oxo; or alternatively, any two substituents adjacent to each other on

the 5- or 6-membered ring may be taken together with the atoms to which they are attached to form a 5- or 6-membered aryl or heteroaryl ring system;

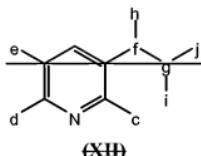
n is an integer from 0 to 10;

c is hydrogen or amino;

d is selected from the group consisting of hydrogen, fluoro, methoxy, amino and chloro;  
and

e is a substituent selected from the group consisting of hydrogen, methyl, 2-(3-methyl)thienyl,  $\text{CH}_3\text{O}(\text{C}=\text{O})$ -, bromo, ethynyl, 3-thienyl and hydroxymethyl; and

(B) a compound having Formula (XII):



wherein f and g are each carbon or nitrogen atom; and wherein f and g are connected to each other by a single, double or triple bond;

h and i are each independently hydrogen, lower alkyl group, or is absent; wherein h and i together with the atoms to which they attached may optionally be combined to form a 3- to 5-membered ring;

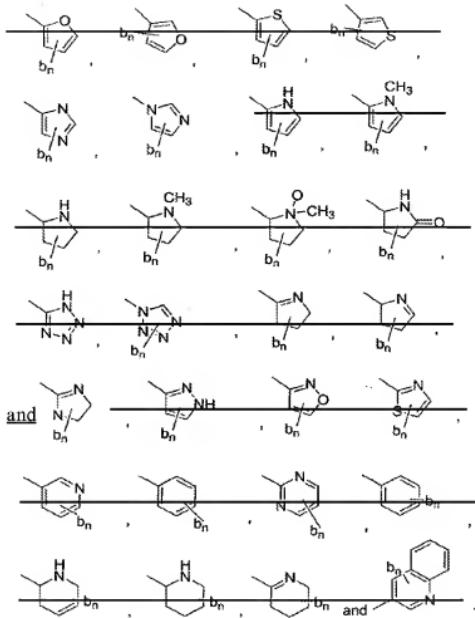
j is selected from the group consisting of aminomethyl, N-methylaminomethyl, amino, 2-(3-methyl)thienyl, 3-thienyl, N,N-dimethylaminomethyl, heteroaryl and 3-(3-methylthienyl)pyridyl;

e is hydrogen or amino;

d is selected from the group consisting of hydrogen, fluoro, methoxy, amino and chloro;  
and

e is a substituent selected from the group consisting of hydrogen, methyl, 2-(3-methylthienyl),  $\text{CH}_3\text{O}(\text{C}=\text{O})$ , bromo, ethynyl, 3-thienyl and hydroxymethyl.

62. (CURRENTLY AMENDED) The compound of claim 59 wherein, the ring defined by  $a^1$ ,  $a^2$ ,  $a^3$ ,  $a^4$ ,  $a^5$  and  $a^6$  form a 5- or 6-member ring system is selected from the group consisting of



63-64. CANCELLED

65. (PREVIOUSLY PRESENTED) A pharmaceutical composition comprising:

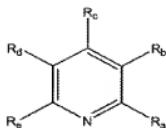
(a) the compound of claim 59, or a pharmaceutically acceptable salt, ester, or amide thereof.

(b) a pharmaceutically acceptable carrier.

66-71 CANCELLED

72. (CURRENTLY AMENDED)

A compound having of Formula XIII:



(XIII)

or a pharmaceutically acceptable salt, ester, or amide thereof,

wherein R<sub>a</sub>, R<sub>c</sub>, and R<sub>e</sub> are independently selected from the group consisting of hydrogen, (C1-C6)alkyl, (C1-C6)alkenyl, (C1-C6)alkynyl, heteroalkyl, halo, (C1-C6)alkoxy, amino, (C1-C6)alkylamino, hydroxy, cyano, and nitro;

R<sub>b</sub> is ~~imidazole, a 5- or 6-member unsaturated, partially unsaturated or saturated heterocyclic and carbocyclic ring system; wherein the R<sub>b</sub> ring system is optionally substituted with hydrido, acyl, halo, lower acyl, lower haloalkyl, oxo, cyano, nitro, carboxyl, amino, lower alkoxy, aminocarbonyl, lower alkoxy carbonyl, alkylamino, arylamino, lower carboxyalkyl, lower cyanoalkyl, lower hydroxylalkyl, alkylthio, alkyl sulfinyl and aryl, lower aralkylthio, lower alkylsulfinyl, lower alkylsulfonyl, aminosulfonyl, lower N-arylaminosulfonyl, lower arylsulfonyl, lower N-alkyl-N-arylaminosulfonyl; in which the above aryl member is selected from phenyl, biphenyl, or naphthyl, or 5- or 6-membered heteroaryl; wherein the above aryl member is optionally substituted with one, two, or three substituents selected from halo, hydroxyl, amino, nitro, cyano, carbamoyl, lower alkyl, lower alkenyloxy, lower alkoxy, lower alkylthio, lower alkylsulfinyl, lower alkylsulfonyl, lower alkylamino, lower dialkylamino, lower haloalkyl, lower alkoxy carbonyl, lower N-alkylcarbamoyl, lower N,N-dialkylcarbamoyl, lower alkanoylamino, lower cyanoalkoxy, lower carbamoylalkoxy, and lower carbonylalkoxy; and wherein the above acyl group is optionally substituted with a substituent selected from hydrido, alkyl, halo, and alkoxy; and~~

R<sub>d</sub> is independently selected from a group as defined for R<sub>a</sub> and R<sub>b</sub>.

73. (WITHDRAWN) The compound of claim 72, wherein the R<sub>b</sub> radical has one or two ring hydrogens substituted with substituents selected from Cl, Br, I, -OR<sub>4</sub>, -R<sub>5</sub>, -OC(O)R<sub>6</sub>, OC(O)NR<sub>7</sub>R<sub>8</sub>, -C(O)R<sub>9</sub>, -CN, -NR<sub>10</sub>R<sub>11</sub>, -SR<sub>12</sub>, -S(O)R<sub>11</sub>, -S(O)<sub>2</sub>R<sub>14</sub>, -C(O)OR<sub>15</sub>, -S(O)<sub>2</sub>NR<sub>16</sub>R<sub>17</sub>;

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and -R<sub>18</sub>NR<sub>19</sub>R<sub>20</sub>, wherein R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub>, R<sub>14</sub>, R<sub>15</sub>, R<sub>16</sub>, R<sub>17</sub>, R<sub>18</sub>, R<sub>19</sub>, and R<sub>20</sub> are the same or different and are branched or unbranched alkyl groups from one to eight carbon atoms or hydrogen radicals.

74. (CURRENTLY AMENDED) A pharmaceutical composition comprising:

- (a) the compound of claim 73 72, or a pharmaceutically acceptable salt, ester, or amide thereof, and  
(b) a pharmaceutically acceptable carrier.

75-88. CANCELLED

89. (NEW) A compound selected from the group consisting of:

